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ABSTRACT

This study developed a prototype occupational interest inventory for academically disadvantaged/functionally illiterate adults. The reliability and validity of the prototype were determined by comparing the results with those of a standardized commercially-available occupational interest inventory. A counterbalance design was employed with 30 academically disadvantaged/functionally illiterate adults to compare three occupational interest inventories: (1) United States Employment Services (USES); (2) Paper-Pencil Prototype Interest Inventory; and (3) Microcomputer Prototype Interest Inventory. The research results achieved acceptable reliability and concurrent validity of the prototype occupational interest inventories, particularly the microcomputer version. The microcomputer "Career Interest Search" could be a valuable assessment tool to assist academically disadvantaged/functionally illiterate adults in any setting. It has several advantages which make its use desirable: it is inexpensive and user- friendly; it provides immediate feedback/results and personalized/private assessment; reference materials are easily obtained; it encourages further exploration and counselor contact; and it lists recognizable job activities/tasks in the items as opposed to references to school subjects and occupational titles in the USES Interest Inventory items. (LLL)

CAREER INTEREST SEARCH

A PROTOTYPE COMPUTER-ASSISTED OCCUPATIONAL INTEREST INVENTORY FOR FUNCTIONALLY ILLITERATE ADULTS

by

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ABSTRACT

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CAREER INTEREST SEARCH: A Prototype Computer-Assisted Occupational Interest Inventory for Functionally Illiterate Adults

(Title)

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Statement of the Problem:

After extensive research and review of commercially-available microcomputer versions of occupational interest inventories, it became apparent that none are presently available specifically for academically disadvantaged/functionally illiterate adults. The central focus of this study was to develop a prototype occupational interest inventory for academically disadvantaged/functionally illiterate adults and to develop a microcomputer version of the prototype.

Research Objectives:

The primary objectives of this study were to determine the reliability and concurrent validity of the prototype occupational interest inventories for academically disadvantaged/functionally illiterate adults by comparing the results obtained with those of a standardized ccmmercially-available occupational interest inventory.

Research Design:

A correlational research design was followed wherein the relationship between the three occupational interest inventories (United States Employment Service [USES] Interest Inventory, Paper-Pencil Prototype Interest Inventory, and Microcomputer Prototype Interest Inventory) were sought. A

counterbalance design was employed in the study with 30 academically disadvantaged/functionally illiterate adults (15 males and 15 females) so as to balance the effects of variations in the three instruments and/or methods of responding.

Findings:

The data generated from the prototype interest inventories, both paper-pencil and microcomputer versions, indicate excellent concurrent validity as compared with the standardized commercially-available USES Interest Inventory results. Pearson Correlation Coefficients ranged from a high of .9995 to a low of .6279 over the twelve interest areas in both raw scores and converted scores. Regardless of specific scores, in all instances, the participants identified the same interest area/scale of the two prototypes as was identified on the USES Interest Inventory.

The research results, therefore, support the desired research objective of achieving acceptable reliability and concurrent validity of the prototype occupational interest inventories (particularly the microcomputer version) for academically disadvantaged/functionally illiterate adults.

A COMPUTER-ASSISTED OCCUPATIONAL INTEREST INVENTORY FOR ACADEMICALLY DISADVANTAGED/FUNCTIONALLY ILLITERATE ADULTS

Illiterate Population in the United States

The adult worker today is experiencing various changes in job skill requirements, working conditions, economic conditions which impact employment needs, and their own personal needs and desires. An increasing number of functionally illiterate adults are finding it difficult to maintain and find advancement on the job with today's employment situation. These individuals are able to read at a level between grade five and grade eight, but are unable to read and write well enough to remain competitive in today's job market. It is estimated that today there are 47 million functionally illiterate adults in the United States--those who read and write so poorly that they cope only marginally. These individuals function, but not as proficient and productive workers (Mark, 1985) and are barely getting by. The inability to read, write, and compute well enough to be a productive citizen is a growing problem. In just 15 years as many as 70 percent of adults will be included in the functionally illiterate population. (Stechert, 1985) Typically, these individuals are not aware of the necessary information associated with various occupations and their work tasks, nor their own employment potential, to make appropriate choices with conventional occupational interest inventories.

Cost of Illiteracy

As staggering are the numbers of illiterate adults, also are the costs of illiteracy of real social cost to the nation such as: welfare; unemployment; crime and imprisonment directly associated with illiteracy; lost purchasing power, as those who cannot earn a living do not add to the economy, they consume it; worker's compensation and industrial accidents due to the employee's inability to read safety warnings; and the incalculable cost of human suffering. Annually, $20 billion is spent as a consequence of illiteracy. (Koppel, 1985) More specifically, over one-third of the mothers receiving AFDC paymnets are illiterate; yearly costs in welfare programs and unemployment approaches $6 billion, and an added $237 billion in unrealized earnings is forfeited annually by persons deficient in basic learning skills. (Kadavy, 1983)

Study Methodology

The occupational interest inventory is used widely by professionals as a tool to assist people in making career and training decisions. In an attempt to provide services and locate materials appropriate for the academically disadvantaged/functionally illiterate adult, it became apparent that few career assessment materials have been specifically

designed for this population. In order to provide better career assessment services and a more individualized approach to this population, it became desirable to have available a microcomputer occupational interest inventory specifically designed for them. The use of the microcomputer in an individualized approach for providing occupational guidance and information is not intended as a substitute for career counseling, but is intended to complement and contribute to the counseling process. The intention is to have the adult complete the activity alone and follow up and discuss the results with a counselor. In effect, it becomes an additional resource or "first step" by encouraging individual initiative, self-administration, and thereby providing an increased level of focus to the counseling interaction.

After extensive research and review of commercially-available microcomputer versions of occupational interest inventories, it became apparent that none are presently available, specificaly for academically disadvantaged/functionally illiterate adults. The central focus of this study was to develop a prototype occupational interest inventory for academically disadvantaged/functionally illiterate adults and develop a microcomputer version of the prototype.

The primary objectives of this study were to determine the reliability and concurrent validity of the occupational interest inventories (paper-pencil and microcomputer versions) by comparing the results obtained with those of a standardized commercially-available occupational interest inventory. Of particular interest was the microcomputer version.

An outline of the steps or process used in the prototype design methodology is provided.

A. Conduct a modified (two-round) Delphi Study with field practitioners in vocational assessment to obtain:

   1. A consensus in identifying a commercially-available, standardized, occupational interest inventory which may be administered to academically disadvantaged/functionally illiterate adults and which would be used for comparison purposes in this study.

   2. A consensus in identifying the appropriate number and title of occupational clusters to be used in the development of a prototype paper-pencil occupational interest inventory.

   3. A consensus in identifying the optimum length of time for completion of an occupational interest inventory by an academically disadvantaged/functionally illiterate adult.

   4. A consensus in identifying the optimum number of statements/ questions pertaining to work activities or tasks to be

included within each occupational cluster in the prototype paper-pencil occupational interest inventory.

B. Develop a prctotype paper-pencil occupational interest inventory for academically disadvantaged/functionally illiterate adults from the recommendaticns and suggestions of the Delphi Study.

   1. Have the prctotype paper-pencil occupational interest inventory critiqued by a reading specialist to ensure the readability level of the instrument is within the reading range of grade five and grade eight.

   2. Revise/correct prototype paper-pencil occupational interest inventory in accordance with recommendations.

C. Develop and program in B.A.S.I.C. a microcomputer version of the prototype occupational interest inventory.

The United States Employment Services (USES) Interest Inventory was identified by the field practitioners in the Delphi Study as the standardized instrument to use in this study.

The research procedure followed was the Correlational Research design wherein the relationship between variables is sought. The variables in this study were the three occupational interest inventories:

A. United States Employment Services (USES) Interest Inventory

B. Paper-pencil prototype interest inventory

C. Microcomputer prototype interest inventory

The study was conducted with 30 academically disadvantaged/functionally illiterate adult participants (15 males and 15 females), and a counterbalance design was employed to balance the effects of variations in the three instruments and/or the methods of responding.

All data collected on the three occupational interest inventories, raw scores and standard/converted scores, from the 30 participants were processed at the Academic Computer Center, University of Wisconsin - Stout, Menomonie, Wisconsin, to obtain a statistical analysis of the results to determine the reliability and concurrent validity of both the paper-pencil and microcomputer versions of the prototype occupational interest inventory.

CONCLUSIONS

This study sought to answer the following questions:

1. Is there evidence to support the concurrent validity of the

prototype instrument developed by the investigator on occupational interest areas?

2. Does the paper-pencil prototype version and the microcomputer prototype version measure occupational interests essentially in the same way and derive similar results (reliability) as the standardized instrument?

On the basis of the data generated from the twelve interest areas of the "Career Interest Search" prototype interest inventory, both paper-pencil and microcomputer, indicate that they have excellent concurrent validity as compared with the standardized commercially-available USES Interet Inventory results. Pearson Correlation Coefficients ranged from a high of .9995 to a low of .6279 over the twelve interest areas for both raw scores and converted scores. Generally, the differentiation between the highest and lowest scores on the twelve interest area scales was about 0.8 standard deviations. Only within the Selling interest area were there noticeable differences in mean scores and standard deviations between the three instruments. All scores, raw and standard/converted, from the USES Interest Inventory and the two prototype versions correlate exceptionally well with each other and are highly significant to at least the .0001 level of significance. This verifies the concurrent validity of the prototype instrument against an accepted instrument shown to measure the twelve areas of occupational interest. Regardless of specific scores, in all instances, the participants identified the same interest area/scale on the two prototypes as was identified on the USES Interest Inventory.

The prototype interest inventories were found to derive similar response patterns/results and appear to be equivalent versions of the USES inventory despite minor differences in response patterns of respondents.

When comparing the Hoyt reliability data presented in the USES Interest Inventory manual with the more powerful Pearson Correlation data of the prototype interest inventories involved in this study, the prototype has clearly exhibited a higher level of consistency or reliability.

Three of the subtests on the prototype (Artistic, Plants and Animals, and Physical Performing) may be susceptible to inflated scores under certain circumstances. Care should be exercised in the interpretation of results of these subtests. Retesting may be appropriate, after a single testing, if high scores are obtained on any of the three scales to see if the scores remain stable.

The research results, therefore, support the desired research objective of achieving acceptable reliability and concurrent validity of the prototype occupational interest inventories for academically disadvantaged/functionally illiterate adults.

When comparing the paper-pencil and microcomputer prototype versions,

there seems to be no serious effect of "computer-phobia" experienced by the participants.

No other microcomputer occupational interest inventory is commercially available to serve the needs of the academically disadvantaged/ functionally illiterate adult. This newly-developed instrument, therefore, can effectively serve the needs of this particular segment of the population.

IMPLICATIONS

The following implications, interpretations, or speculations may be viewed as the more pertinent generalizations growing out of this study:

1. There is a growing need to offer more career assessment and counseling services to the adult population. The academically disadvantaged/functionally illiterate adults have few resources available to assist them. The microcomputer "Career Interest Search" can meet this need by providing the first step" in occupational interest assessment and exploration of potential occupations.

2. Since the USES Interest Inventory uses reference materials such a the Guide for Occupational Exploration and the Occupational Outlook Handbook--both having readability levels too high for the academically disadvantaged/functionally illiterate adult--alternate and more appropriate readability level resources should be used such as the Occupations Digest published by the Wisconsin Career Information System; The Career Box, Occupational Resource Module published by Fearon Education, a division of Pitman Learning, Inc.; or Worker Trait Group Guide, AEL Career Decision-Making Program published by McKnight Publishing Company.

3. The microcomputer "Career Interest Search" could be a valuable additional career assessment tool to assist academically disadvantaged/functionally illiterate adults in any setting serving the academically disadvantaged/ functionally illiterate adult.

   It has several distinct advantages which make its use desirable: inexpensive; user-friendly; immediate feedback/results; personalized/private assessment; reference materials easily obtained; encourages further exploration and counselor contact; utilizes recognizable job activities/tasks in the items as opposed to references to school subjects and occupational titles in the USES Interest Inventory items.

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